

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A communication system for performing code-division multiple access communications between a mobile station and a base station wherein;

said base station comprises:

base station receiving means for receiving signals from said mobile station and outputting a first reception signal;

interference canceling means for canceling a multiple access interference signal contained in said first reception signal;

interference cancellation effect estimating means for estimating a post-interference cancellation signal-to-interference power ratio of said first reception signal which is currently being received;

first signal-to-interference power ratio measuring means for determining the signal-to-interference power ratio of said first reception signal;

second signal-to-interference power ratio measuring means for determining the signal-to-interference power ratio of said first reception signal after interference cancellation by said interference canceling means;

wherein said interference cancellation effect estimating means estimates the post-interference cancellation signal-to-interference power ratio for a current reception signal based on the signal-to-interference power ratio of the current reception signal obtained from said first signal-to-interference power ratio measuring means and the post-interference cancellation signal-to-interference power ratio for said first reception signal obtained from said second signal-to-interference power ratio measuring means;

control command generating means for generating a power control command by comparing said post-interference cancellation signal-to-interference power ratio determined by said interference cancellation effect estimating means with a target value for power control; and

base station transmitting means for transmitting said power control command to said mobile station; and

said mobile station comprises;

mobile station receiving means for receiving a signal from said base station and outputting a second reception signal; and

mobile station transmitting means which adjusts the power of ~~the~~ a transmission signal transmitted to said base station based on said power control command contained in said second reception signal.

2. (Currently Amended) A communication system in accordance with claim 1, wherein said target value is determined based on an error rate of decoded data obtained by decoding said first reception signal after interference cancellation by said interference canceling means.

3. (Cancelled)

3 ~~4~~. (Currently Amended) A communication system in accordance with claim ~~[[3]]~~ 1, wherein said base station further comprises signal processing means for determining an average value of signal-to-interference power ratios corresponding to an error rate of ~~the~~ ^{the} ~~said~~ current reception signal based on the post-interference cancellation signal-to-interference power ratio of the current reception signal estimated by said interference cancellation effect estimating means and the post-interference cancellation signal-to-interference power ratio measured by said second signal-to-interference power ratio measuring means; and

target value setting means for updating the target value for power control based on said average value determined by said signal processing means.

4 ~~5~~. (Currently Amended) A communication system in accordance with claim ~~4~~ ³, wherein said target value setting means updates said target value by taking into account ~~the~~ a current number of connections.

6. (Cancelled)

5 ~~7~~. (Currently Amended) A base station device for a communication system for performing communications with a mobile station by code-division multiple access; comprising:

base station receiving means for receiving signals from said mobile station and outputting a reception signal;

interference canceling means for canceling a multiple access interference signal contained in said reception signal;

interference cancellation effect estimating means for estimating a post-interference cancellation signal-to-interference power ratio of said reception signal which is currently being received;

first signal-to-interference power ratio measuring means for determining the signal-to-interference power ratio of said reception signal; and

second signal-to-interference power ratio measuring means for determining the signal-to-interference power ratio of said reception signal after interference cancellation by said interference canceling means;

wherein said interference cancellation effect estimating means estimates the post-interference cancellation signal-to-interference power ratio of the current reception signal based on the signal-to-interference power ratio of the current reception signal obtained by said first signal-to-interference power ratio measuring means and the post-interference cancellation signal-to-interference power ratio of a prior reception signal obtained by said second signal-to-interference power ratio measuring means;

control command generating means for generating a power control command by comparing said post-interference cancellation signal-to-interference power ratio determined by said interference cancellation effect estimating means with a target value for power control; and

base station transmitting means for transmitting said power control command to said mobile station.

6 ~~8~~. (Currently Amended) A base station device in accordance with claim
5 ~~7~~, wherein said target value is determined based on the error rate of decoded data
obtained by decoding said reception signal after interference cancellation by said
interference canceling means.

9. (Cancelled)

~~7~~ ~~10~~. (Currently Amended) A base station device in accordance with claim
[[9]] ~~7~~, further comprising:
5 signal processing means for determining an average value for signal-to-
interference power ratios corresponding to the error rate of the current reception signal
based on the post-interference cancellation signal-to-interference power ratio of the
current reception signal estimated by said interference cancellation effect estimating
means and the post-interference cancellation signal-to-interference power ratio
measured by said second signal-to-interference power ratio measuring means; and
target value setting means for updating the target value for said power control
based on said average value determined by said signal processing means.

~~8~~ ~~11~~. (Currently Amended) A base station device in accordance with claim
7 ~~10~~, where said target value setting means updates said target value by taking into
account ~~the~~ a current number of connections.

12. (Cancelled)

~~9~~ ~~13~~. (Currently Amended) A power control method in a communication
system for performing communications by code-division multiple access between a
mobile station and a base station; comprising steps of:
canceling a multiple access interference signal contained in a reception signal
from said mobile station;

estimating a post-interference cancellation signal-to-interference power ratio of said reception signal which is currently being received;

measuring the signal-to-interference power ratio of said reception signal and measuring the signal-to-interference power ratio of said reception signal after said canceling step, and estimating the post-interference cancellation signal-to-interference power ratio of the current reception signal based on a resulting signal-to-interference power ratio of the current reception signal and the post-interference cancellation signal-to-interference power ratio of a prior reception signal;

generating a power control command by comparing said estimated post-interference cancellation signal-to-interference power ratio and a target value for power control; and

controlling the transmission power of said mobile station by transmitting said power control command to said mobile station.

10 14. (Currently Amended) A power control method in accordance with claim 13, wherein said target value is determined based on the error rate of decoded data obtained by decoding said reception signal after ~~interference cancellation~~ said canceling step.

15. (Cancelled)

11 16. (Currently Amended) A power control method in accordance with claim [[15]] 13, further comprising:

determining an average value of the signal-to-interference power ratio corresponding to the error rate of the current reception signal based on the post-interference cancellation signal-to-interference power ratio of the current reception signal which has been estimated and the post-interference cancellation signal-to-interference power ratio of said ^{the} ~~a~~ prior reception signal ~~measured in the past~~, and updating the target value for said power control based on said average value.

12 17. (Currently Amended) A power control method in accordance with claim 16, wherein said target value is updated by taking into account the a current number of connections.

18. (Cancelled)
